

PRIMERGY RX600 S3 SAS Server

Options Guide

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Certified documentation according to DIN EN ISO 9001:2000

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1 Preface

The PRIMERGY RX600 S3 SAS server is an Intel-based server for mid-size and large companies. It is suitable for use as a file server as well as an application, information, or Internet server.

The server offers a high degree of reliability and availability through highly developed hardware and software components. These include hard disk drive modules, system fans, power supply units, PCI slots and memory boards (all the components listed are hot-pluggable), as well as “Prefailure Detection and Analyzing” (PDA), “Automatic Server Reconfiguration and Restart” (ASR&R) and the *ServerView* server management software.

The server is used exclusively as a rack model. It offers a whole host of configuration options but only uses four height units (HU) in the 19-inch rack.

1.1 Documentation overview



PRIMERGY manuals are available in PDF format on the *ServerBooks* CD, which is part of the *ServerView Suite* package provided with each server system.

These PDF files can also be downloaded from the Internet free of charge: At <http://manuals.fujitsu-siemens.com> you will find an overview page showing the online documentation available on the Internet. You can go to the PRIMERGY server documentation by clicking on *industry standard servers*.

Concept and target groups

This Options Guide shows you how to expand and upgrade your server.



Caution!

The activities described in this manual may only be performed by specialist personnel with technical training.



The installation and removal of the hot-plug components is described in the operating manual supplied with the server.

Additional server documentation

The PRIMERGY documentation comprises the following additional manuals:

- The “Safety notes and other important information” manual (printed copy always supplied with the server, and available as a PDF file on the ServerBooks CD supplied)
- The “Guarantee” manual (printed copy always supplied with the server; also available as a PDF file on the supplied *ServerBooks* CD)
- The “Ergonomics” manual (PDF file available on the supplied *ServerBooks* CD)
- The operating manual for PRIMERGY RX600 S3 SAS (PDF file available on the *ServerBooks* CD supplied)
- The technical manual for the system board D2630 (PDF file available on the *ServerBooks* CD supplied)
- The “D2630 BIOS Setup” manual (PDF file available on the *ServerBooks* CD supplied)
- The Service Supplement for PRIMERGY RX600 S3 SAS (PDF file available on the *ServerBooks* CD supplied)
- The “ServerView Suite” manual (printed copy always supplied with the server, and available as a PDF file on the *ServerBooks* CD supplied)
- The “WebBIOS Configuration Utility” (PDF file available on the *ServerBooks* CD supplied)



You can order a supplementary *ServerBooks* CD by sending an e-mail to the following address, quoting your server data:

Reklamat-PC-LOG@fujitsu-siemens.com

Further sources of information:

- Technical manual for the relevant rack
- Manual for the monitor
- Manual on *ServerView* Server Management
- Manual on the *RemoteView* Remote Test and Diagnostics System
- Documentation for boards and drives
- Documentation for your operating system
- Information files on your operating system

(See also chapter [“Related publications” on page 75](#))

1.2 Extensions and conversions

Additional processors

The system board can be upgraded to include up to four processors. You may only use processors of the same type on the system board. All processors must have the same frequency and cache size.

Extension of the main memory

The system board offers slots for four hot-plug memory boards, each of which can accommodate up to four memory modules (in two memory banks). The slots are suitable for DDR II/400 MHz DIMM modules with 1 GB, 2 GB and 4 GB capacity. This allows a maximum memory configuration of 64GB.

Additional accessible drive

In addition to the existing CD-/DVD drive, a tape drive can be installed as an accessible drive. The slot is designed for 5.25 x 1.6-inch devices.

Additional controllers in non-hot-plug PCI slots

The system board has seven PCI slots:

- Slots 1-5 are hot-plug PCI slots which can be fitted with hot-pluggable controllers (the hot-plug PCI slots are described in the operating manual).



Slot 4 comes with a SAS controller installed and can thus not be fitted with other controllers.

- Slots 6 and 7 are 100 MHz non-hot-plug PCI slots and can be fitted with boards with a maximum length of 315mm.

Additional external SCSI interface

If you want to connect additional external SCSI devices, one channel of the onboard controller can be made available for connecting storage subsystems via the external SCSI interface.

Battery (BBU) for the RoMB controller

An optional battery (battery backup unit = BBU) is available for the internal RoMB controller to protect its memory contents in the event of a power failure.

RemoteView

RemoteView is the remote-management solution for PRIMERGY systems from Fujitsu Siemens Computers. *RemoteView* and the associated hardware components integrated on the system board allow remote monitoring and servicing and fast recovery of the system in the event of an error.

RemoteView Service Board S2 LP

The *RemoteView* Service Board S2 “low profile” (RSB S2 LP) is a PCI board with a completely independent system, i.e. it has its own operating system with Web server and SNMP agents and can optionally be equipped with an external power supply.

The RSB S2 LP is installed in a (non-hot plug) standard PCI slot and connected to the system board with a cable.

The RSB S2 LP permits remote diagnosis for system analysis, remote system configuration and restart in the event of operating system failure or hardware faults. It has its own LAN port which ensures that all the functions are available.

1.3 Notational conventions

The following notational conventions are used in this manual:



<i>Italics</i>	indicate commands, menu items or software programs.
“Quotation marks”	indicate names of chapters and terms that need to be emphasized.
►	indicates an activity that must be performed.
 ATTENTION!	indicates that, if you ignore the information given at this point, your health, the correct functioning of your system or the security of your data may be at risk.
	indicates supplementary information, remarks and tips.

Table 1: Notational conventions

2 Procedure



ATTENTION!

- The activities described in this manual should only be performed by engineers, service personnel or technical specialists.
 - Equipment repairs should only be performed by qualified staff.
 - Any failure to observe the guidelines in this manual, and any unauthorized opening or improper repairs could endanger the user (through electric shock, fire hazards) or damage the equipment.
 - Please note that any unauthorized opening of the device will result in the invalidation of the warranty and exclusion from all liability.
- ▶ First of all please familiarize yourself with the safety instructions in the [chapter “Important notes” on page 13ff.](#)
 - ▶ Make sure that all the manuals you need (see [“Additional server documentation” on page 6](#)) are available, printing out the PDF files if necessary.

You will definitely need

- the operating manual for the server,
 - the Service Supplement for the server and
 - the technical manual for the system board.
- ▶ Shut down the server correctly, switch it off, pull out the power plugs, and open the server as described in the [chapter “Preparation” on page 23f.](#)
 - ▶ Extend or upgrade your server as described in the relevant chapter.
- i**

The installation and removal of the hot-plug components is described in the operating manual supplied with the server.
- ▶ Close the server, plug in the power plugs, and switch on the server as described in the [chapter “Completion” on page 65f.](#)
 - ▶ Start the operating system and, if necessary, configure it as required (see the operating manual).

3 Important notes

This chapter provides safety instructions which you must observe when handling your server.

3.1 Notes on safety



The following safety instructions can also be found in the manual entitled “Safety”.

This device complies with the relevant safety regulations for data processing equipment, including electronic office machines for use in an office environment.

If you have any questions as to whether you can set up the device in your particular environment, please contact your sales outlet or our customer service center.



ATTENTION!

The activities described in this manual may only be performed by specialist technical personnel. Equipment repairs must only be performed by qualified staff. Any unauthorized opening or improper repairs could endanger the user (through electric shock, energy hazard, fire hazard) or damage the equipment. Please note that any unauthorized opening of the device will result in the invalidation of the warranty and exclusion from all liability.

Before setting up**ATTENTION!**

- During installation and before operating the device, observe the instructions on environmental conditions for your device (see operating manual).
- If the device is brought in from a cold environment, condensation may form both inside and on the outside of the machine.

Before operating the device, wait until it is absolutely dry and has reached approximately the same temperature as the installation site. Failure to observe these guidelines can lead to material damage of the device.

- Transport the device only in its original packaging or in packaging which protects it from knocks and jolts.

Installation and operation**ATTENTION!**

- If the rack model is integrated in an installation that receives power from an industrial (public) power supply network with the IEC309 connector, the (public) power supply protection must comply with the requirements for the non-industrial power supply networks for the type A connector.
- The server automatically adjusts to a mains voltage from 200 V - 240 V. Make sure that the local mains voltage is neither above nor below this range.
- This device has safety-tested power cables and must only be connected to properly grounded power outlets.
- Make sure that the power sockets on the device or the grounded mains outlets are freely accessible.
- The power switch does not disconnect the device from the mains voltage. To completely disconnect it from the mains voltage, you must remove the power plugs from the power outlet.

**ATTENTION!**

- Always connect the device and the attached peripherals to the same power circuit. Otherwise you run the risk of losing data if, for example, a power outage occurs and the central processing unit is still running but the peripheral device (e.g. a storage subsystem) has failed.
- Data cables must be adequately shielded to avoid interference.
- For the LAN wiring, the requirements according to standards EN 50173 and EN 50174-1/2 apply. The minimum requirement is the use of a protected LAN line of category 5 for 10/100 Mbps Ethernet, and/or of category 5e for Gigabit Ethernet. The requirements of the specification ISO/IEC 11801 must also be taken into account.
- Route the cables in such a way that they do not form a potential hazard (tripping) and cannot be damaged. When connecting the device, refer to the relevant notes in the operating manual.
- Do not connect or disconnect any data transmission cables during a thunderstorm (lightning hazard).
- Be careful to ensure that no objects (e.g. jewelry, paper clips etc.) or liquids get inside the device (electric shock, short circuit).
- In emergencies (e.g. damaged casing, control elements or cable, penetration of liquids or foreign bodies), switch off the device immediately, unplug it from the grounded power outlet, and contact your customer service center.
- Proper operation of the device (in accordance with IEC 60950-1/ EN 60950-1) is only ensured if the casing is completely assembled and the rear covers for the installation openings are in place (electric shock, cooling, fire protection, interference suppression).

**ATTENTION!**

- Install only system extensions that satisfy the requirements and rules governing safety, electromagnetic compatibility, and telecommunications terminal equipment.

If you install other extensions, you may damage the system or violate these safety regulations.

Information on which system extensions are suitable can be obtained from the customer service center or your sales outlet.

- The components marked with a warning label (e.g. lightning symbol) may only be opened, removed, or exchanged by authorized, qualified personnel.
Exception: You may exchange hot-plug power supply units.
- If you cause a defect on the device by installing or exchanging system extensions, the warranty will be invalidated.
- You may only set the resolutions and refresh rates specified in the operating manual for your monitor.
Otherwise, you may damage the monitor. If you are in any doubt, contact your sales outlet or customer service center.

Batteries**ATTENTION!**

- Incorrect replacement of batteries can lead to risk of explosion. The batteries may only be replaced with identical batteries or with a type recommended by the manufacturer (see the technical manual for the system board in the section [“Documentation overview” on page 5](#)).
- When replacing the lithium battery on the system board, always follow the instructions in the technical manual for the system board (see [section “Documentation overview” on page 5](#)).

Notes on handling CDs/DVDs in CD/DVD drives**ATTENTION!**

- To prevent data loss, damage to the device, or injuries, you should use only CDs/DVDs in good condition in the CD/DVD drive of your server.

- Therefore, check each CD/DVD for damage, cracks, breakage etc. before inserting it in the drive.

Please note that any additional labels applied may change the mechanical properties of a CD/DVD and cause imbalance.

Damaged and imbalanced CDs/DVDs can break at high drive speeds (data loss).

Under certain conditions, sharp-edged pieces of broken CDs/DVDs can penetrate the cover of the drive (cause damage to the device) and be thrown out of the device (therefore causing injury to uncovered body parts, particularly the face or neck).



To protect the CD/DVD drive and prevent mechanical damage as well as premature wearing of the CDs/DVDs, you should observe the following advice:

- Only insert the CDs/DVDs in the drive when needed and remove them after use.
- Store the CDs/DVDs in suitable sleeves.
- Protect the CDs/DVDs from exposure to heat and direct sunlight.

Note on the laser

The CD/DVD drive is classified as Laser Class 1, according to IEC 60825-1.



ATTENTION!

The CD/DVD drive contains a light-emitting diode (LED) which may generate a stronger laser beam than laser class 1. It is dangerous to look directly into the beam.

Never remove any parts of the housing of the CD/DVD drive!

Components with electrostatic-sensitive devices

Components with electrostatic-sensitive devices are identified by the following sticker:

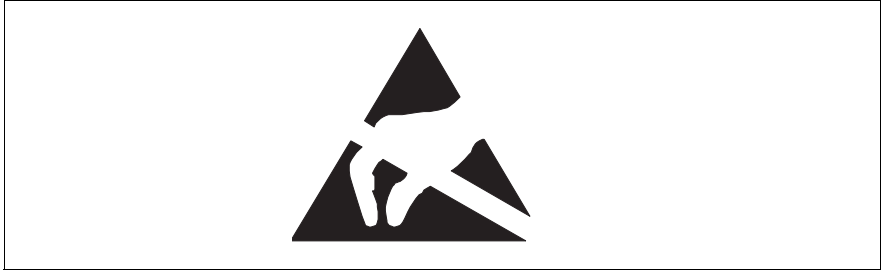


Figure 1: ESD label

When you handle components fitted with ESDs, you must always observe the following points:

- Pull out the power plug before installing or uninstalling components.
- You must always discharge static build-up (e.g. by touching a grounded object) before working with such components.
- Any devices or tools that are used must be free of electrostatic charge.
- Wear a suitable grounding cable that connects you to the external chassis of the system unit.
- Always hold components with ESDs at the edges or at the points marked green (touch points).
- Do not touch any connectors or conduction paths on an ESD.
- Place all the components on a pad which is free of electrostatic charge.



For a detailed description of how to handle ESD components, see the relevant European or international standards (EN 61340-5-1, ANSI/ESD S20.20).

3.2 Environmental protection

Environmentally friendly product design and development

This product has been designed in accordance with the Fujitsu Siemens Computers standard “Environmentally Friendly Product Design and Development”. This means that the designers have taken into account important criteria such as durability, selection and labeling of materials, emissions, packaging, the ease with which the product can be dismantled and the extent to which it can be recycled.

This saves resources and helps to protect the environment.

Notes on saving energy

Devices that do not have to be on permanently should not be switched on until they are needed and should be switched off during long breaks and when work is finished.

Notes on dealing with consumables

Please dispose of printer consumables and batteries in accordance with local government regulations.

Do not throw batteries into the household rubbish. They must be disposed of in accordance with local regulations on special waste.

Note on labels on plastic housing parts

Avoid attaching your own labels on plastic housing parts whenever possible, since this makes it difficult to recycle them.

Returning used electrical and electronic devices

- Separate disposal

Old electrical and electronic devices must be disposed of separately and not with household refuse. Separate disposal allows this old equipment to be reused or recycled, which helps conserve resources.

- Return and collection systems

It may be possible to return old electrical/electronic devices from private households free of charge. Please use the country-specific return or collection systems available to you (see [“Local contacts” on page 21](#)).

The return of used devices which pose a health or safety risk for human beings due to soiling during use may be refused.

- Reuse and recycling

By actively using any return or collection systems offered, you will be contributing to the reuse and recycling of electrical/electronic devices.

- Effects on the environment and human health

Old electrical/electronic devices contain parts which must be handled selectively according to EU directives. Separate disposal and selective treatment are the basis for environment-friendly disposal and the protection of human health.

- Meaning of the symbol “Crossed out rubbish bin on wheels”

In accordance with EU directives, electrical (electronic) devices which are marked with one of the following symbols must not be disposed of with household refuse.

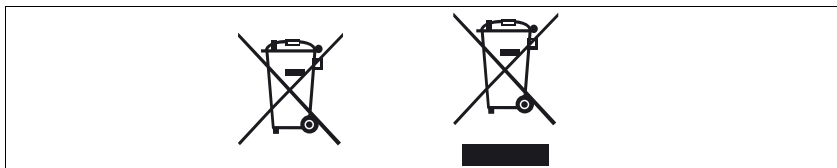


Figure 2: Symbols on electrical/electronic devices

Returning batteries

According to EU directives, batteries which are marked with one of the following symbols must not be disposed of together with household refuse.

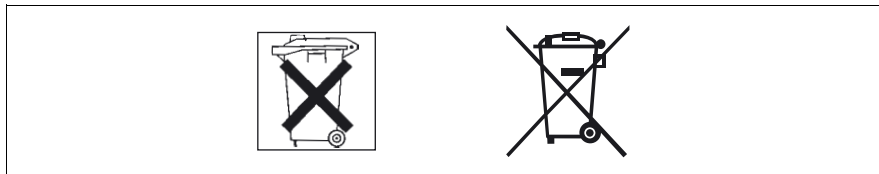


Figure 3: Symbols on batteries

With batteries containing harmful substances, the chemical symbol for the heavy metal contained is indicated below the rubbish bin.

Cd Cadmium

Hg Mercury

Pb Lead

The following applies to Germany:

- Private consumers can return batteries at the point of sale or in the immediate vicinity thereof free of charge.
- The consumer is obligated to return defective or used batteries to the seller or to the return points established for this purpose.

Local contacts

For details on take-back and reuse of devices and consumables within Europe, contact your Fujitsu Siemens Computers branch office/subsidiary or our recycling centre in Paderborn, Germany:

Fujitsu Siemens Computers
Recycling Center
33106 Paderborn, Germany

Tel.: +49 5251 8180-10

Fax: +49 5251 8180-15

Internet: www.fujitsu-siemens.com/recycling

4 Preparation



ATTENTION!

Make sure you observe the safety notes in the [chapter “Important notes” on page 13ff.](#)

- ▶ Exit all applications and shut down the server correctly.
- ▶ If your operating system has not switched off the server, press the On/Off button.
- ▶ Unplug the power plugs from the grounded power outlets.

4.1 Opening the server

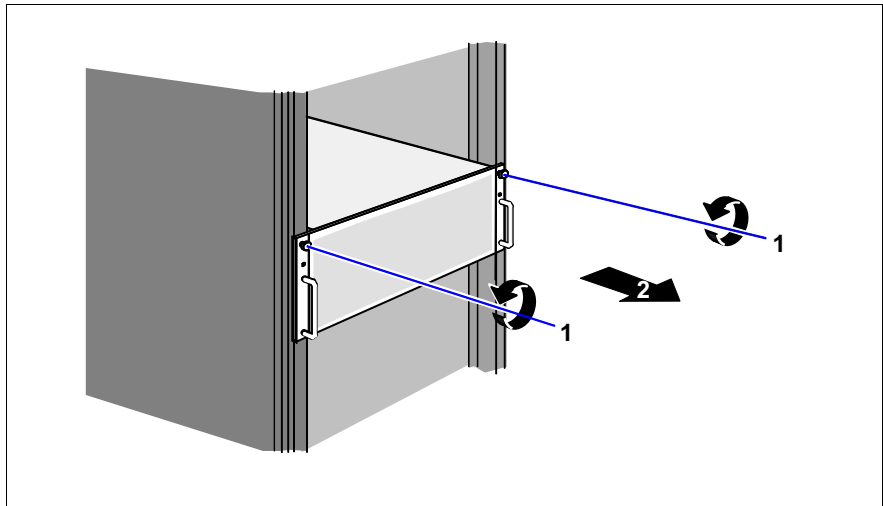


Figure 4: Removing the server

- ▶ Undo the knurled screws (1) and pull the server carefully out of the rack (2) as far as possible.
- ▶ In the majority of cases it makes sense to remove the server from the rack.



How to remove the server from the rack cabinet is described in the operating manual.

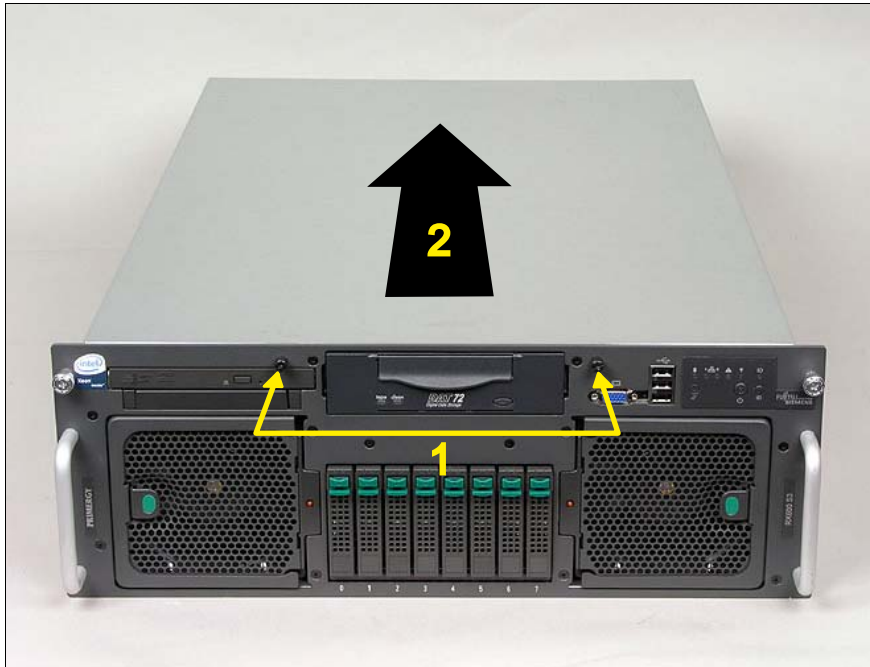


Figure 5: Removing the housing cover

- ▶ Undo the two captive screws on the front (1).
- ▶ Push the housing cover back a few centimeters (2).
- ▶ Take off the housing cover.

5 Main memory



ATTENTION!

Make sure you observe the safety notes in the [chapter “Important notes” on page 13ff.](#)



In redundant (mirroring or RAID) configurations, defective memory boards can be replaced while the system is running (“hot plug”). The relevant procedure is described in the operating manual supplied with the server.

This manual describes how to replace memory boards when the system is switched off.

The system board provides slots for four hot-plug memory boards, each of which can accommodate up to four memory modules. Two memory modules (“1A/1B” or “2A/2B”) make up one memory bank (see [figure 6 on page 26](#)).

The slots are suitable for DDR II/400 MHz DIMM modules with 1 GB, 2 GB and 4 GB capacity. This allows a maximum memory configuration of 64GB.

5.1 Fitting rules



ATTENTION!

Memory modules must be installed in pairs of identical modules.

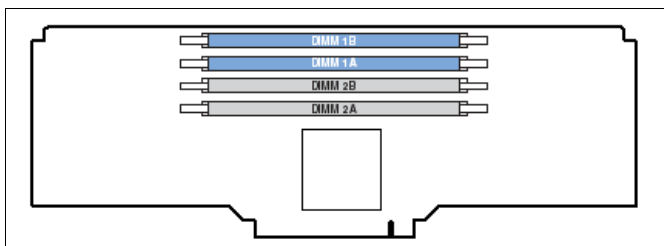


Figure 6: Fitting the memory banks

The memory capacity of the pairs installed on a memory board, however, may differ: pair 1A/1B, for example, can consist of two 2 GB memory modules and pair 2A/2B of two 1 GB memory modules.

5.2 Upgrading / exchanging main memory

- Open the server as described in [chapter “Preparation” on page 23f.](#)

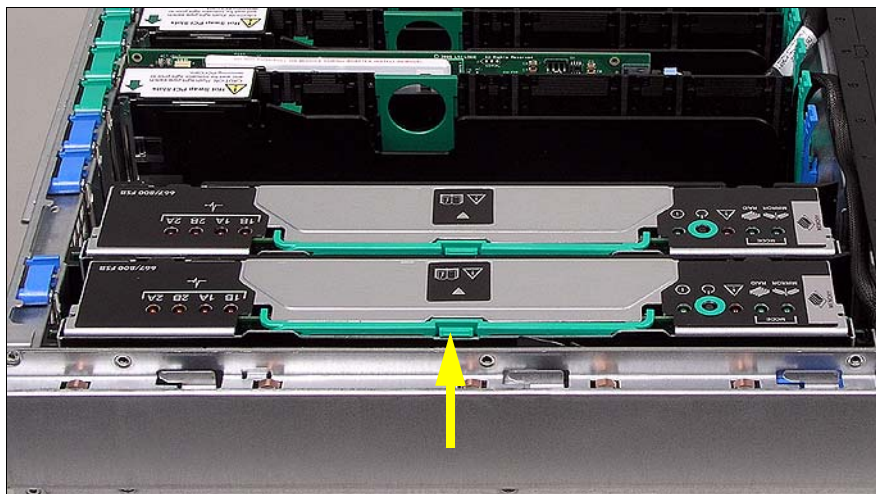


Figure 7: Pressing on the handle lock

- Press the clip in the handle so that the handle can eject.

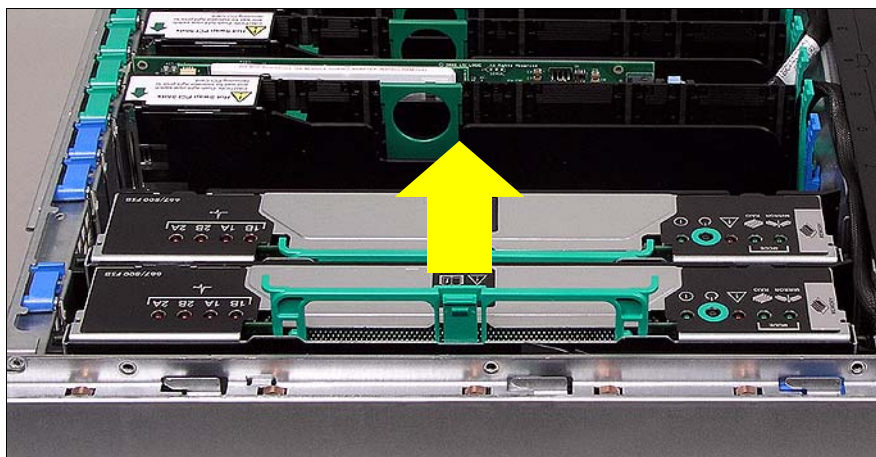


Figure 8: Removing the memory board

- Carefully pull out the memory board by the handle.

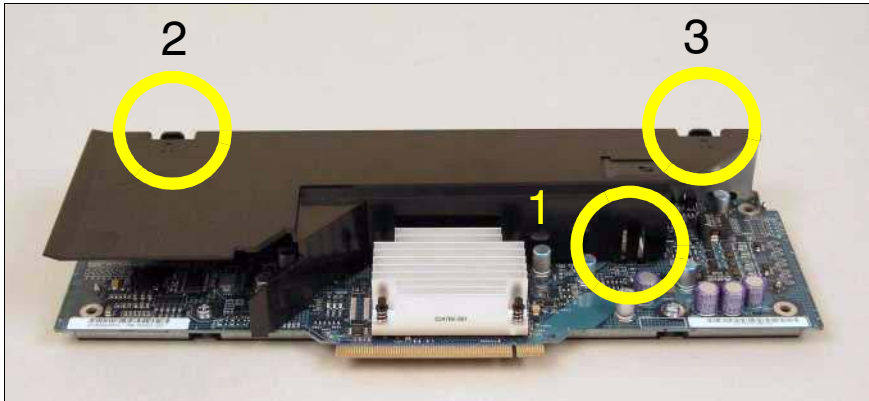


Figure 9: Removing the memory board cover

- Remove the memory cover by pressing the marked clips. First press on clip “1” and then clips “2” and “3”.

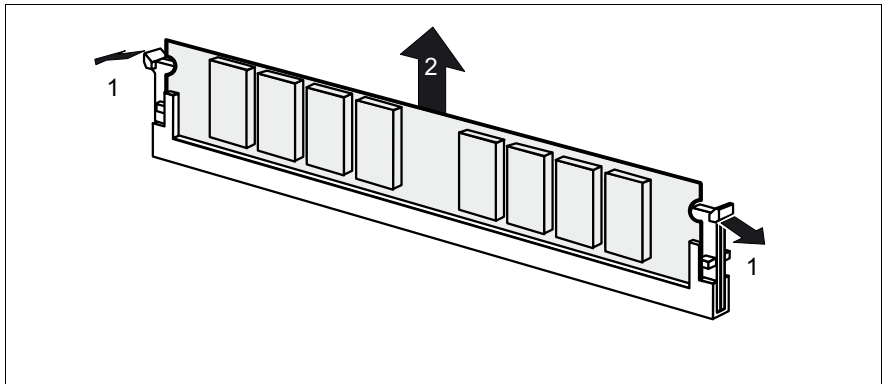


Figure 10: Removing a memory module

- Flip the ejector tabs on each side of the slot outward (1). This levers an installed memory module out of its slot.
- Remove the memory module from the slot (2).

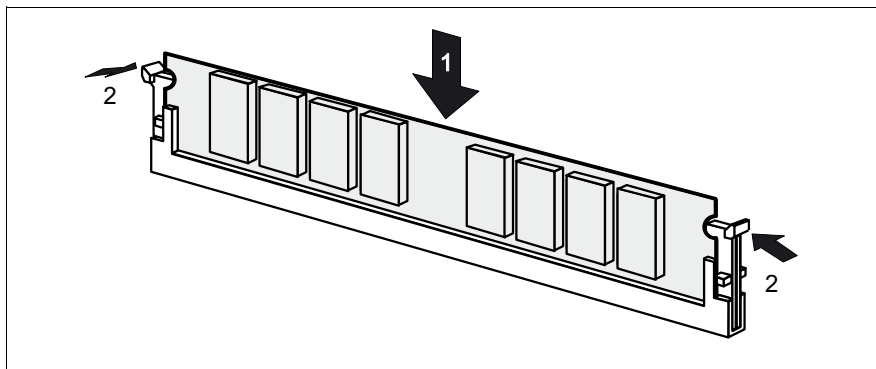


Figure 11: Installing a memory module

- ▶ Carefully press the memory module into the slot (1) until the ejector tabs on both sides of it engage (2).



Figure 12: Fitted memory board

- ▶ Place the cover on the memory board (see [page 28](#)).
- ▶ Carefully reinstall the memory board in its slot in the server, exerting equal pressure on both sides of the board. (For a detailed description of how to install the board see the operating manual.)
- ▶ Close the server, plug in the power plugs, and switch on the server as described in the [chapter “Completion” on page 65f](#).

6 Processors



ATTENTION!

Make sure you observe the safety notes in the [chapter “Important notes” on page 13ff.](#)

Processors are components which are extremely sensitive to electrostatic discharge and must be handled with caution.

When you take a processor out of its protective wrapper or out of a socket, place it on an insulated, antistatic surface with the smooth side down.

Never slide a processor over a surface.

6.1 Installing additional processors

The system board can be upgraded to include up to four processors.



ATTENTION!

Always use processors of the same type. All processors must have the same frequency and cache size. For multi-processor mode use a suitable multi-processor operating system.

- Open the server as described in the [chapter “Preparation” on page 23f.](#)

Removing the processor cover

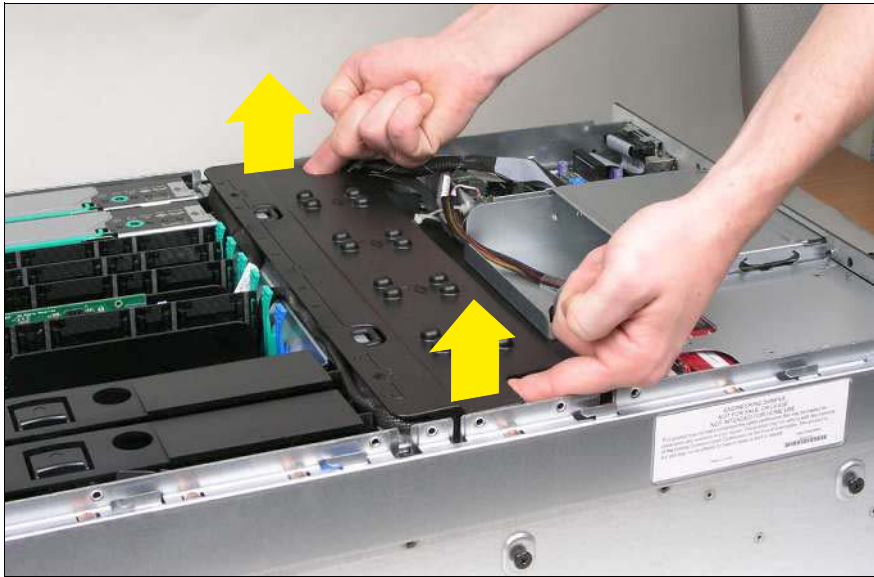


Figure 13: Removing the processor cover

- Insert your fingers in the two recesses in the processor cover and lift it upward.

Removing the heat sink dummy

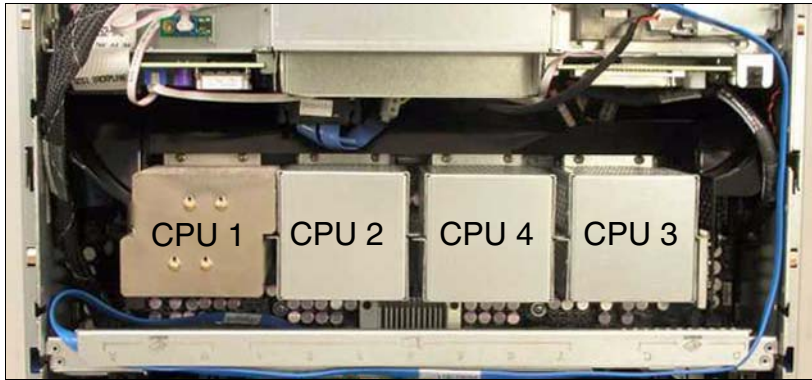


Figure 14: Heat sink dummies on the CPU sockets 2 - 4

- Undo the four captive screws at the foot of the heat sink dummy on the relevant processor socket and remove the dummy.



When installing heat sinks, note that the numbering of the CPUs/CPU sockets corresponds with the fitting sequence.

Installing the processor

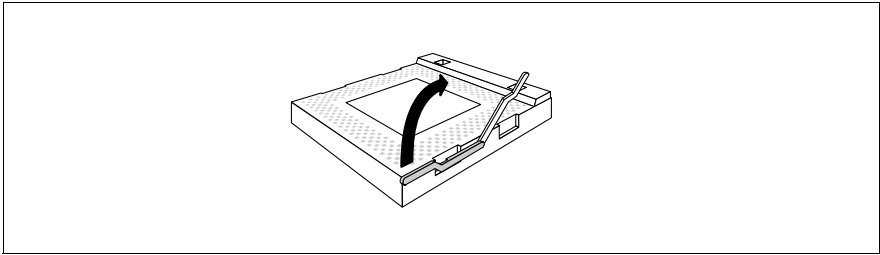


Figure 15: Opening the socket lever

- Release the socket lever by pressing it sideways and then lifting it up as far as it will go.

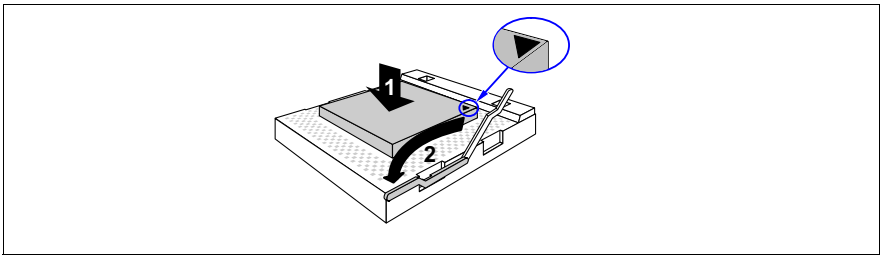


Figure 16: Inserting the processor



ATTENTION!

The processor can only be installed in one direction. Note the marking on one of the corners (see diagram above).

To avoid damaging the pins or the processor, do not force the processor into the socket.

- Position the new processor above the socket, and press it carefully into the socket (1).
- Lock the processor into place in the socket by pushing the socket lever back into its original position (2).

Installing the heat sink



ATTENTION!

Never install a processor without a heat sink, as the processor may overheat, causing itself and the complete system board to fail.

- Carefully place the heat sink onto the processor.



Make sure the thermal paste on the underside of the heat sink is not damaged.

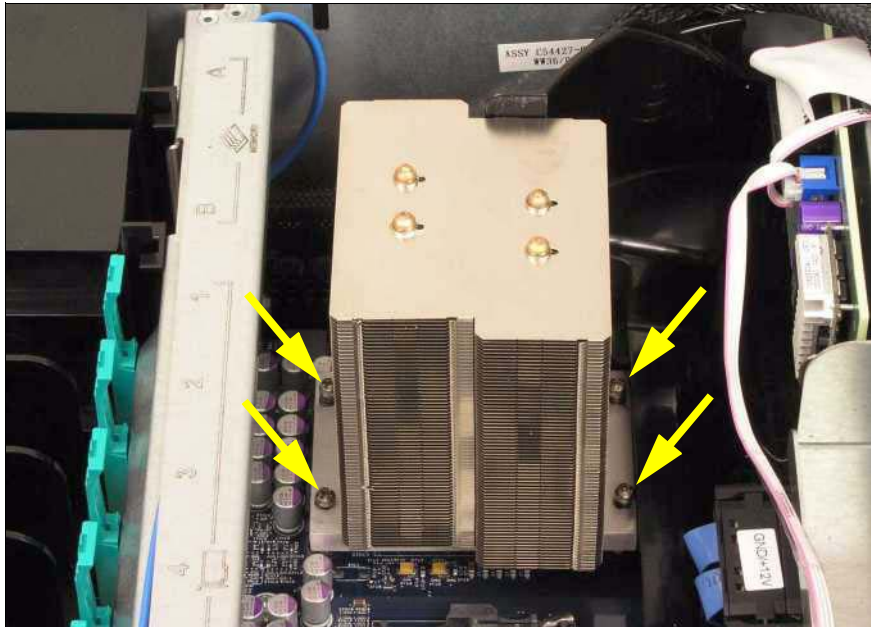


Figure 17: Fastening the heat sink

- Fasten the heat sink with four screws. First fasten two diagonally opposite screws, then the other two.

Installing additional VRM modules



Figure 18: Additional VRM modules

- Install a separate core VRM module (A) for the 3rd and 4th CPUs.

i For third-level size cache processors (e.g. "Tulsa"), an additional cache VRM module "VRM 9DO" (B) must be installed for the 3rd and 4th CPU together.

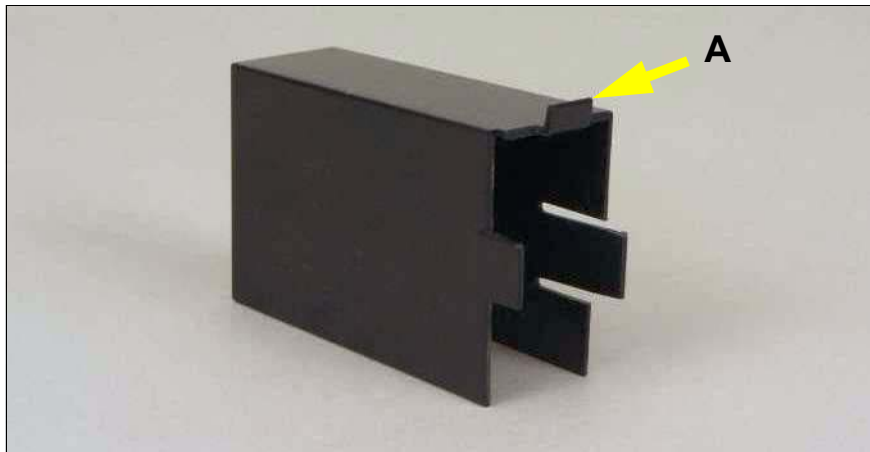


Figure 19: Ventilation hood for the core VRM module of CPU 4.

i This ventilation hood shown above must be removed before you install the core VRM module of the 4th CPU and must be reinstalled afterwards.

- Slide the plastic catch (A) under a cross-bar on the chassis (see [figure 21 on page 38](#)).

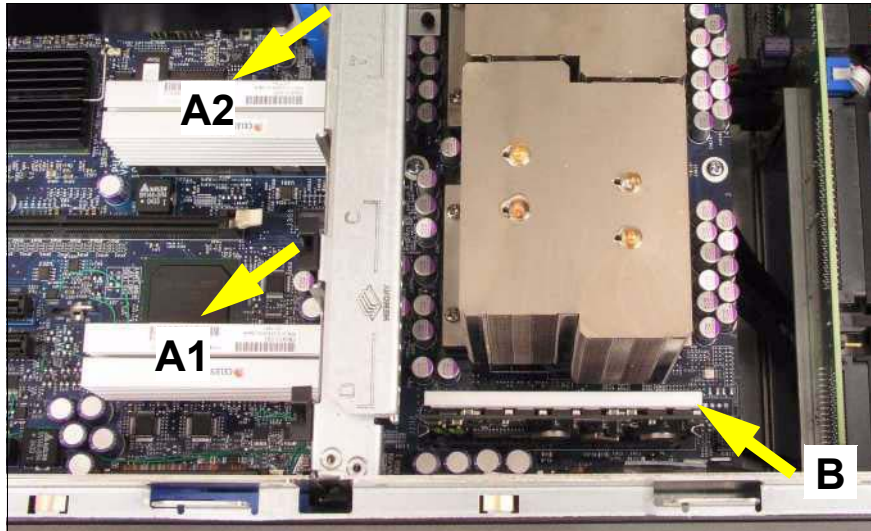


Figure 20: Position of the additional VRM modules to be installed

- Install the required VRM modules in the appropriate slots:
 - the core VRM module (A1) for the 3rd CPU.
 - the core VRM module (A2) for the 4th CPU.
 - the cache VRM module "VRM 9DO" (B) for the 3rd and 4th CPUs.



The additional cache VRM module is only required for third-level size cache processors (e.g. "Tulsa").

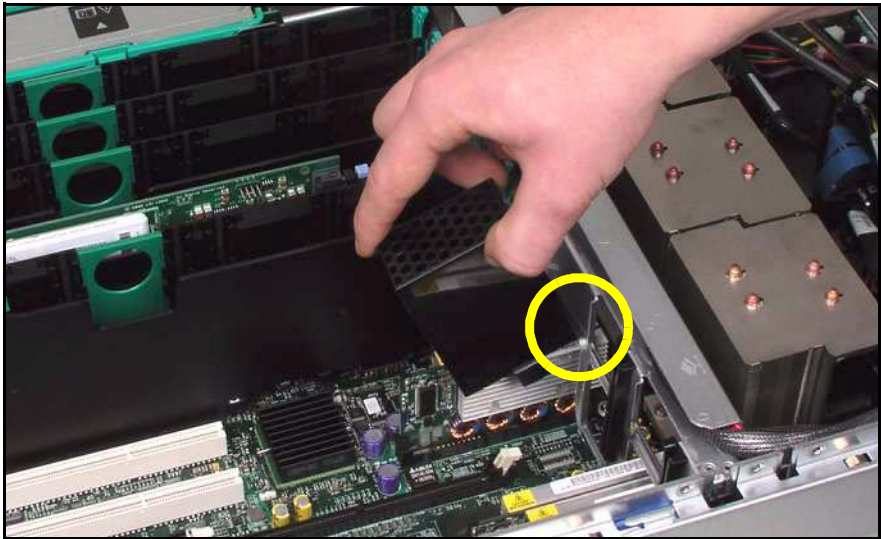


Figure 21: Installing the ventilation hood for the core VRM module of the 4th CPU

- ▶ Install the ventilation hood for the core VRM module of the 4th CPU as follows:
 - Insert the plastic catch (see [figure 19 on page 36](#)) into the slot of the chassis cross-bar (see circle in figure above).
 - Swivel the ventilation hood downward.

Mounting the processor cover

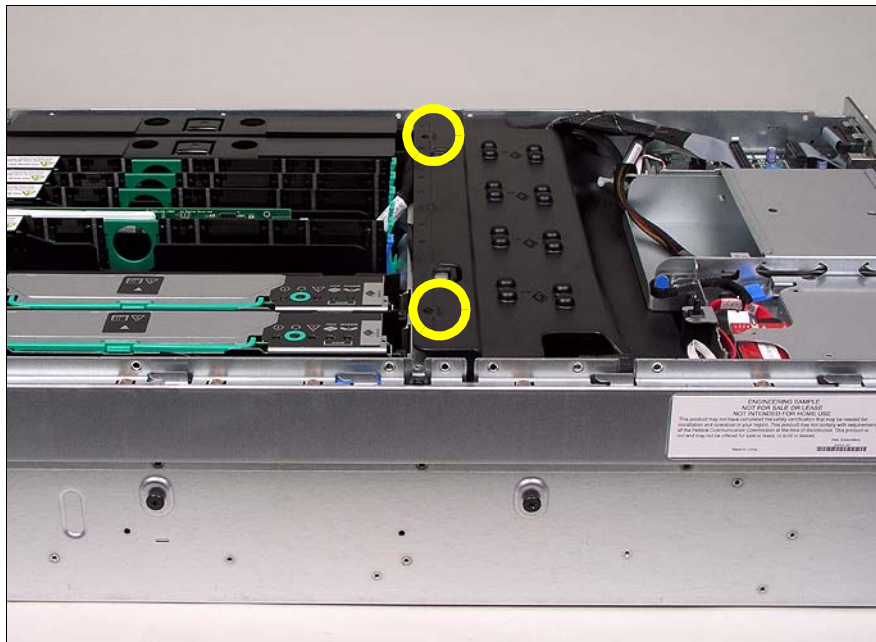


Figure 22: Mounting the processor cover

- ▶ Reinstall the processor cover.



Make sure the processor cover engages properly by pressing the points marked "Memory" (see circles) on the cover.

- ▶ Close the server, plug in the power plugs, and switch on the server as described in the [chapter "Completion" on page 65f.](#)

6.2 Replacing the processor



ATTENTION!

You may only use processors of the same type on the system board.

- ▶ Open the server as described in the [chapter “Preparation” on page 23f.](#)
- ▶ Remove the processor cover (see [page 32](#))

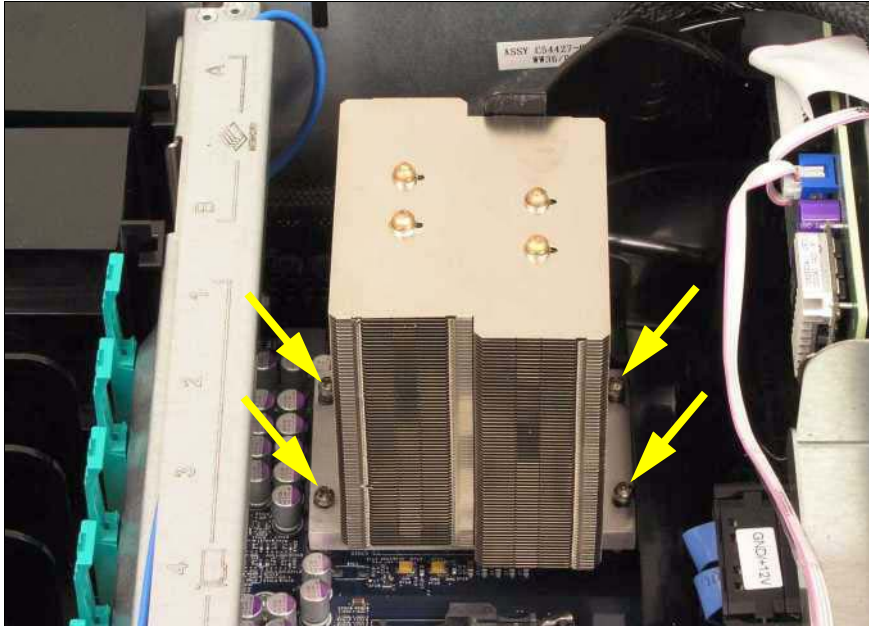


Figure 23: Removing the processor heat sink

- ▶ Remove the four screws of the heat sink. First undo two diagonally opposite screws, then the other two.
- ▶ Turn the heat sink carefully back and forth to loosen it. Then lift it out to remove it.
- ▶ Remove the residual thermal paste from the underside of the heat sink.
- ▶ Clean the underside of the heat sink using a lint-free cloth.

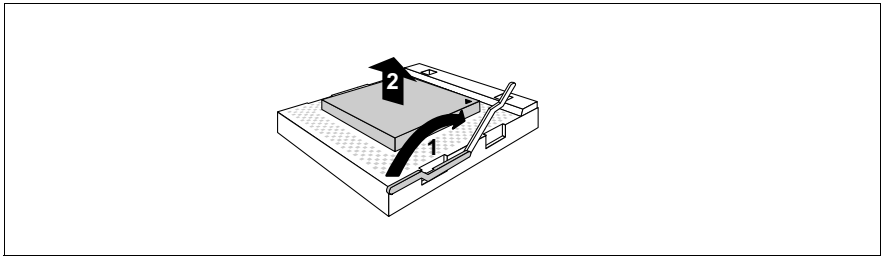


Figure 24: Removing the old processor

- ▶ Release the socket lever by pressing it sideways and lifting it up as far as it will go (1).
- ▶ Lift the installed processor carefully out of its socket (2).

Installing the new processor



ATTENTION!

The processor can only be installed in one direction. Note the marking on one of the corners (see figure below).

To avoid damaging the pins or the processor, do not force the processor into the socket.

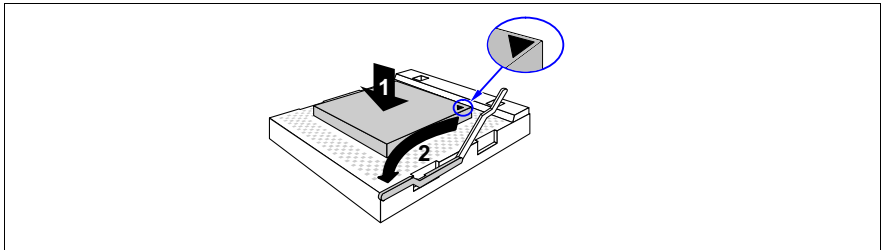


Figure 25: Installing the new processor

- ▶ Position the new processor above the socket, and press it carefully into the socket (1).
- ▶ Lock the processor into place in the socket by pushing the socket lever back into its original position (2).

- ▶ Carefully place the heat sink onto the processor.



Make sure the thermal paste on the underside of the heat sink is not damaged.

- ▶ Fasten the heat sink with four screws (see [page 35](#)). First fasten the two diagonally opposite screws, then the other two.
- ▶ Reinstall the processor cover (see [page 39](#)).
- ▶ Close the server, plug in the power plugs, and switch on the server as described in the [chapter “Completion” on page 65f](#).

7 Accessible drives



ATTENTION!

Make sure you observe the safety notes in the [chapter “Important notes” on page 13ff.](#)

The PRIMERGY RX600 S3 SAS server offers a total of two slots for accessible drives. Possible options are a tape drive and a CD/DVD drive.

7.1 Installing the CD/DVD drive

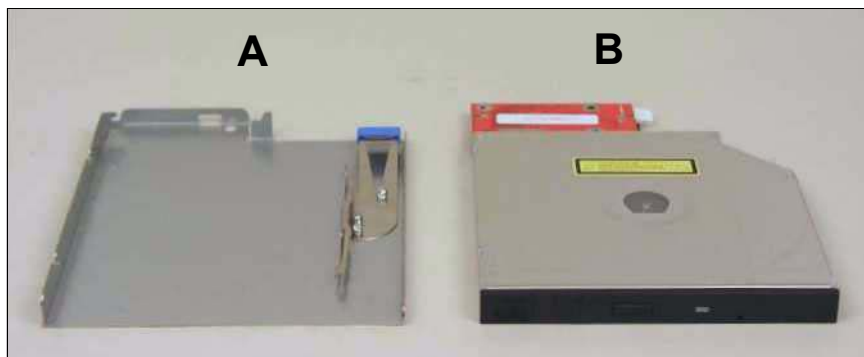


Figure 26: CD/DVD drive with module frame

A CD/DVD drive (B) can be installed in the server. This drive is installed in the server in a module frame (A).

Removing the module frame

The module frame for the CD/DVD drive is installed in the slot.

- Open the server as described in the [chapter “Preparation” on page 23f.](#)

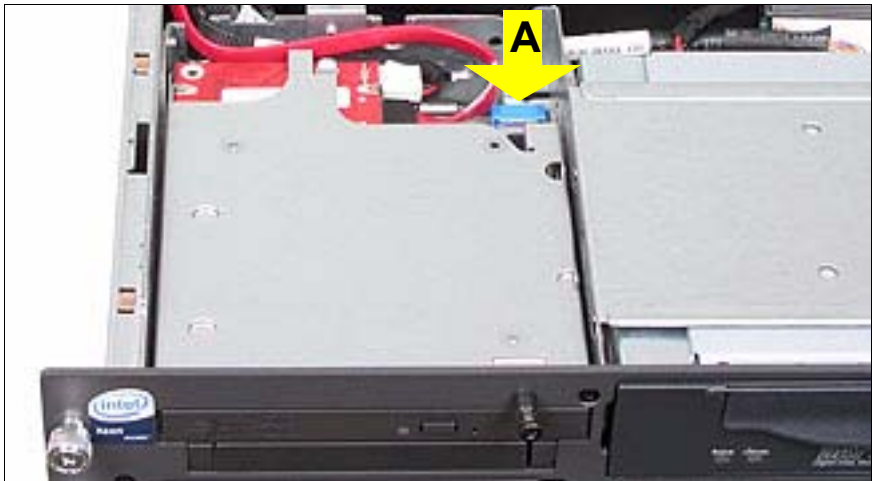


Figure 27: Removing the module frame

- Press the blue lever (A) and push the module frame out of the server.

Mounting a CD/DVD drive

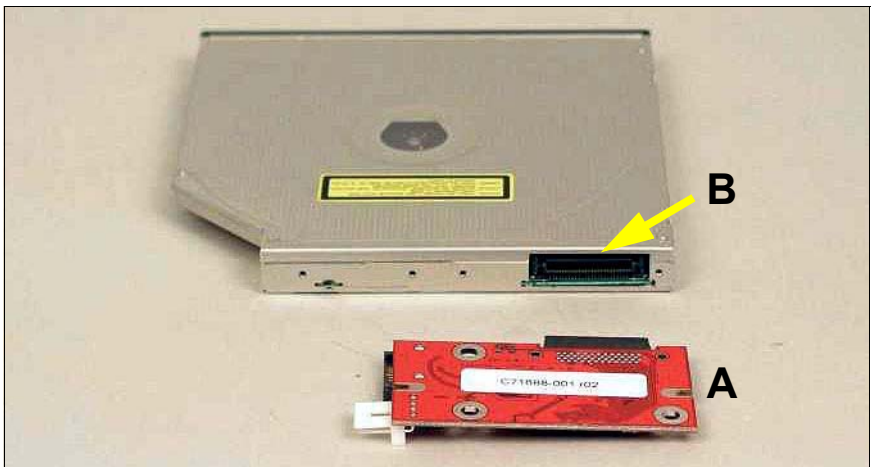


Figure 28: Mounting the interface board

- Connect the interface board (A) into the rear interface connector (B) of the CD/DVD drive.



Figure 29: Mounting the drive in its frame

- Place the CD/DVD drive in the frame such that it engages in the two openings of the module frame (see circles).



Figure 30: The pre-mounted CD/DVD drive (back)

- Push the CD/DVD drive into its bay from the front until it engages.

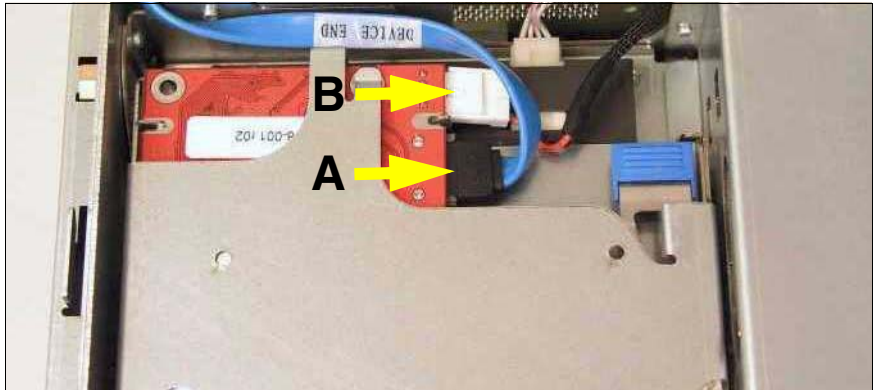


Figure 31: Installing the CD/DVD drive

- ▶ Plug the data cable (A) and the power cable (B) into the interface board of the CD/DVD drive.
- ▶ Close the server, plug in the power plugs, and switch on the server as described in the [chapter “Completion” on page 65f](#).

7.2 Installing a tape drive

A tape drive can be installed in the bay in the middle of the server. If no device is installed in the bay, it contains only the module frame.

Removing the module frame

- Open the server as described in the [chapter “Preparation” on page 23f.](#)

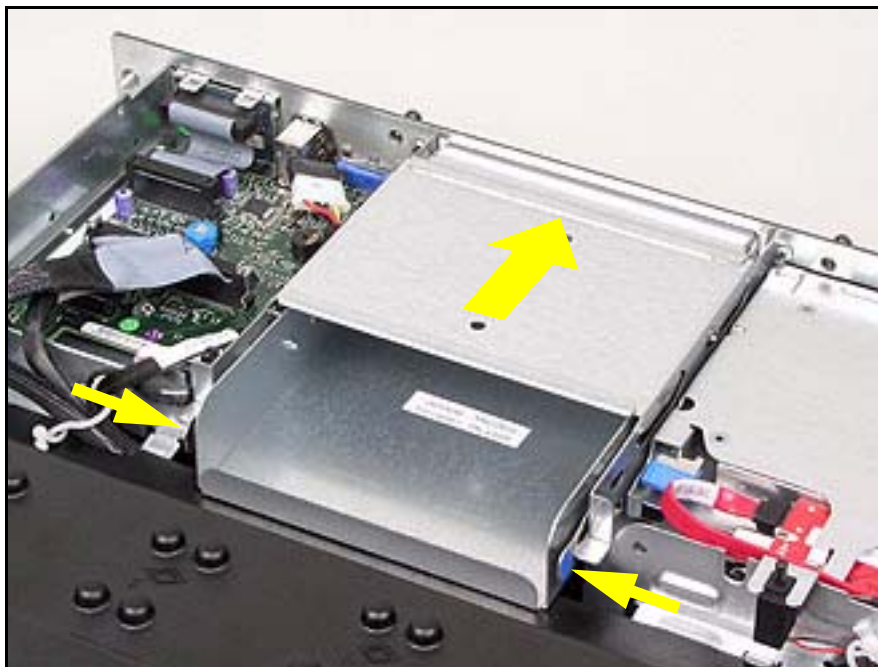


Figure 32: Removing the module frame

- Press the two blue points on the spring clips on the module frame and push the module frame forward out of the server.

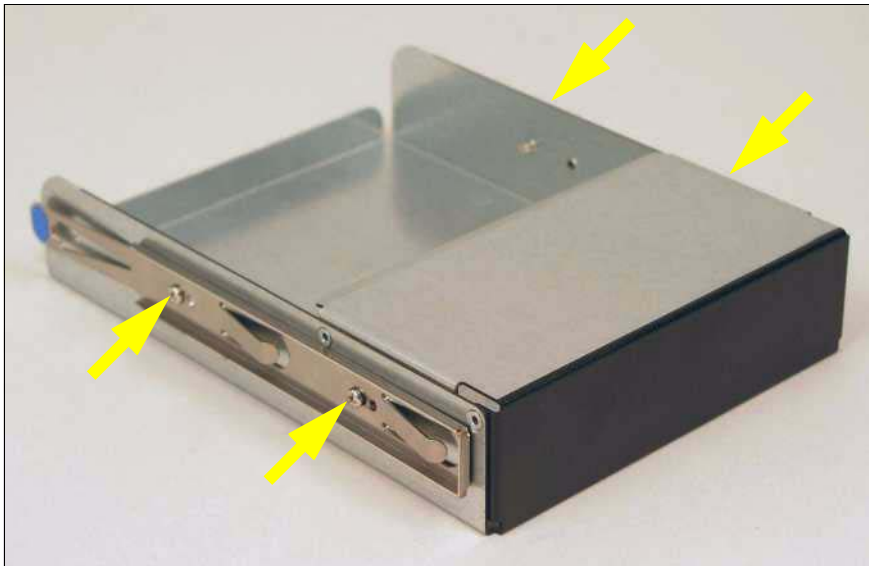


Figure 33: Module frame with sliding rails

- Undo the two screws to remove the two sliding rails on the sides.



ATTENTION!

Keep the module frame for future use. If you remove the drive without installing a new one, you must reinstall the module frame to comply with EMC regulations and to satisfy cooling requirements and fire protection measures.



Figure 34: Fastening the sliding rails on the drive

- Fasten the two sliding rails on both sides of the drive to be installed using two screws for each.



Figure 35: Inserting the tape drive

- Push the accessible drive into the empty bay until it engages.

Mounting the tape drive

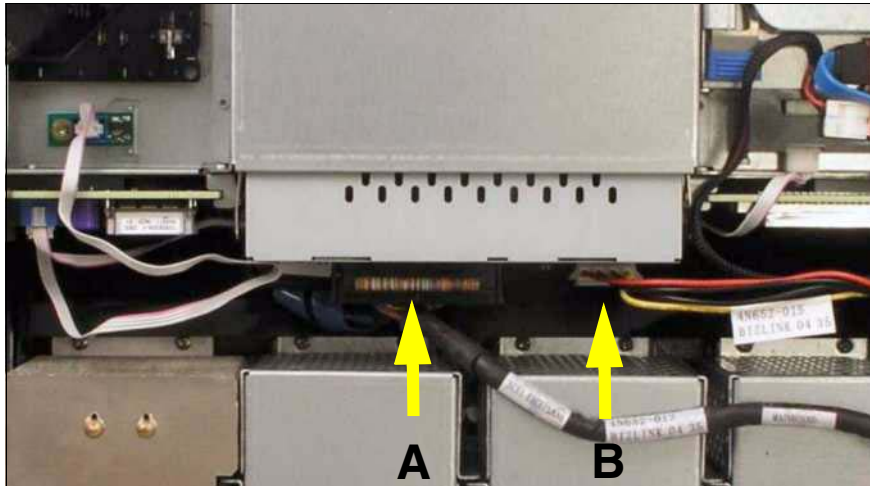


Figure 36: Connecting the drive

- ▶ Connect the data cable (A) to the drive.
- ▶ Connect the power cable (B) to the drive.
- ▶ Connect the free end of the data cable either to the connector for SCSI channel “B” on the system board or to a free connector on a PCI SCSI controller.
- ▶ Close the server, plug in the power plugs, and switch on the server as described in the [chapter “Completion” on page 65f](#).

8 Controllers in non-hot-plug PCI slots



ATTENTION!

Make sure you observe the safety notes in the [chapter “Important notes” on page 13ff.](#)

The system board contains two non-hot-plug PCI-X slots (slots 6 and 7) with the following specifications: 64 bit/100 MHz, max. length 315 mm

When replacing **non**-hot-pluggable components, you must proceed as follows:

- ▶ Exit all applications and shut down the server correctly.
- ▶ If your operating system has not switched off the server, press the On/Off button.
- ▶ Unplug the power plugs from the grounded power outlets.

8.1 Installing controllers

- ▶ Open the server as described in the [chapter “Preparation” on page 23f.](#)
- ▶ Please read the documentation supplied with the PCI board.
- ▶ Plug any necessary cables into the PCI board.
- ▶ Remove the slot cover of the relevant slot on the back side of the server.



Keep the slot cover.

If you remove a board, you must reinstall the slot cover to comply with EMC regulations (regulations on electromagnetic compatibility) and to satisfy cooling requirements and fire protection measures.

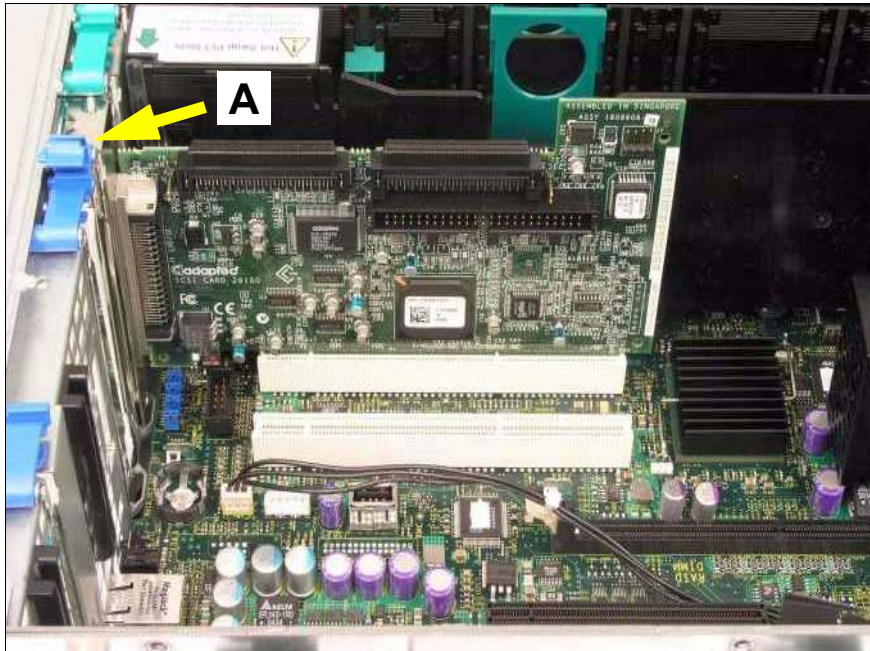


Figure 37: Installing a non-hot-plug controller

- ▶ Insert the controller in the slot and press it in carefully. Close the locking mechanism of the slot (A).
- ▶ If necessary, plug in the cables on the board and other components.
- ▶ Close the server, plug in the power plugs, and switch on the server as described in the [chapter “Completion” on page 65f](#).

9 RemoteView components



ATTENTION!

Make sure you observe the safety notes in the [chapter “Important notes” on page 13ff.](#)

The *RemoteView* Service Board S2 LP (RSB S2 LP) is a low-profile PCI board including a completely independent system, i.e. it has a separate operating system with a Web server and SNMP agent and can be driven by an external power supply.

The RSB S2 LP is connected to the system board via an IPMB cable. It permits remote diagnosis for system analysis, remote system configuration and remote restart even in the event of operating system failure or hardware faults.

9.1 Installing the RemoteView Service Board S2 LP

- ▶ Open the server as described in the [chapter “Preparation” on page 23f.](#)
- ▶ Remove the slot cover of a (non-hot-plug) PCI slot on the back side of the server.



The RSB S2 LP should preferably be installed in the (non-hot-plug) PCI slot 7.

Keep the slot cover.

If you remove the board, you must reinstall the slot cover to comply with EMC regulations (regulations on electromagnetic compatibility) and to satisfy cooling requirements and fire protection measures.

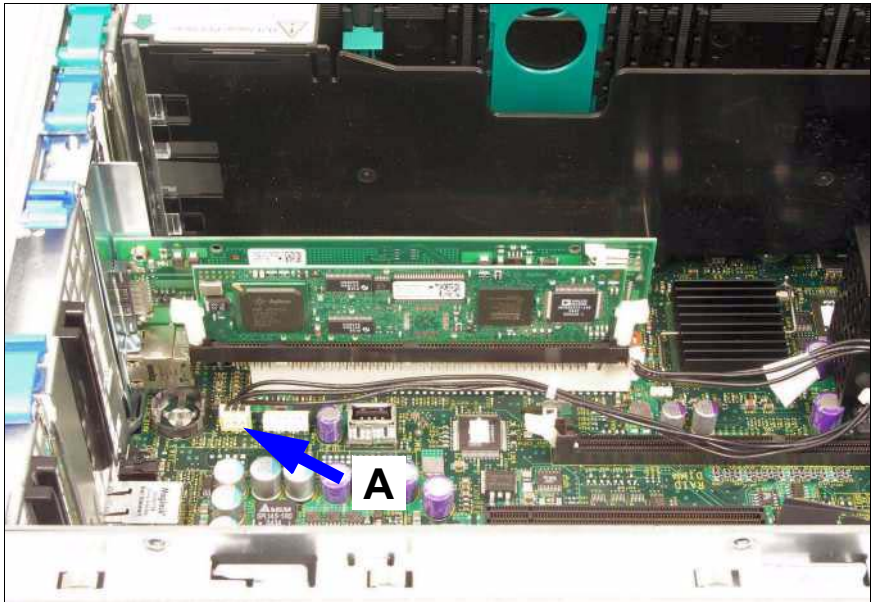


Figure 38: Mounting position and connectors of the RSB S2 LP

- Install the RSB S2 LP in the PCI slot. The relevant procedure is described in the [chapter “Controllers in non-hot-plug PCI slots” on page 51ff.](#)

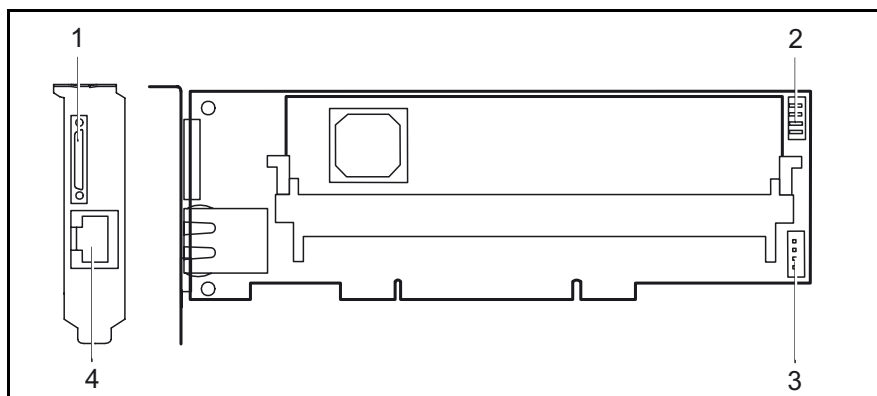


Figure 39: Connectors of the RSB S2 LP

1	Connector for the adapter cable (connector for the external power supply and USB and VGA connection)
2	Connector for the optional power supply (not used)
3	IPMB connector
4	LAN connector

- ▶ Plug the IPMB cable supplied with the server into the plug (see (3) in the [figure 39](#)) on the RSB S2 LP.
- ▶ Check that the IPMB cable is connected to the system board (see (A) in [figure 38 on page 54](#)).



The position of the connectors is described in the technical manual for the D2630 system board.

- ▶ Close the server, plug in the power plugs, and switch on the server as described in the [chapter “Completion” on page 65f](#).

10 External SCSI connection



ATTENTION!

Make sure you observe the safety notes in the [chapter “Important notes” on page 13ff.](#)

The connection for external SCSI devices is located on the rear of the server.

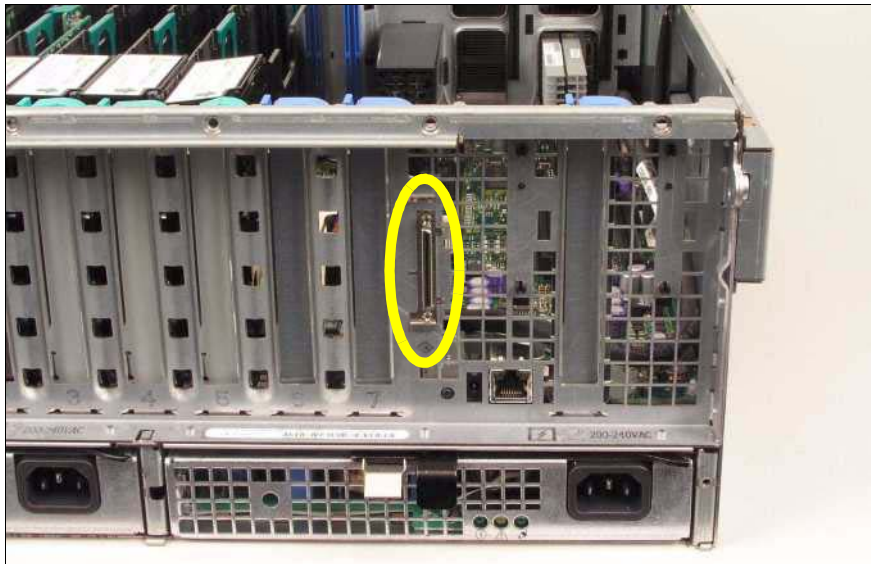


Figure 40: Position of the external SCSI connection

10.1 Installing an external SCSI connection

Install the following cable (FSC no. A3C40079949):

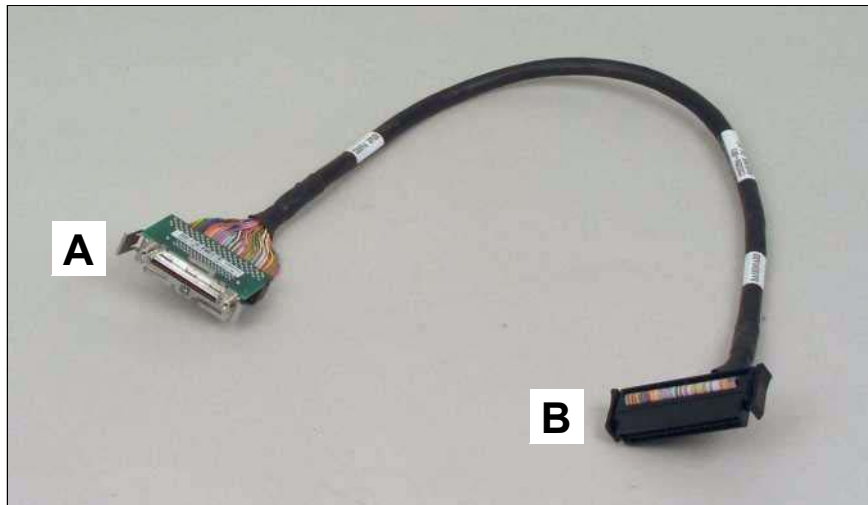


Figure 41: Cable for the external SCSI connection

A	Connector for connecting external SCSI devices
B	Connector for connecting to "SCSI B" on the system board

- ▶ Open the server as described in the [chapter "Preparation" on page 23f.](#)
- ▶ Remove the memory boards or dummy memory boards installed in slots "C" and "D".

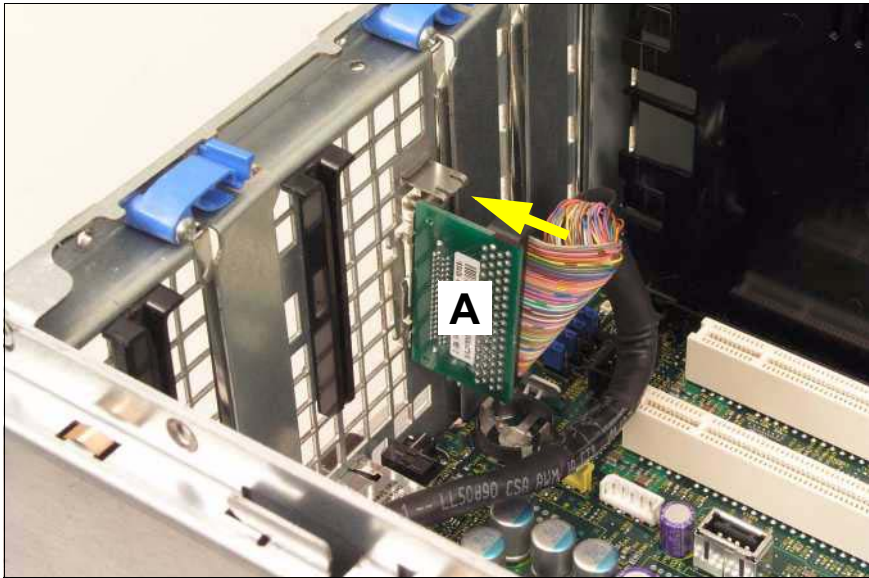


Figure 42: Installing the connector in the server backplane

- ▶ Plug the connector (A) of the connection cable into the corresponding opening in the backplane.



Make sure the connector engages properly.

- ▶ Connect the connector (B) of the connection cable (see [figure 41 on page 58](#)) to the “SCSI B” connector on the system board.
- ▶ Close the server, plug in the power plugs, and switch on the server as described in the [chapter “Completion” on page 65f](#).

11 Battery for the RoMB controller



ATTENTION!

Make sure you observe the safety notes in the [chapter “Important notes” on page 13ff.](#)

11.1 Installing the battery (BBU)

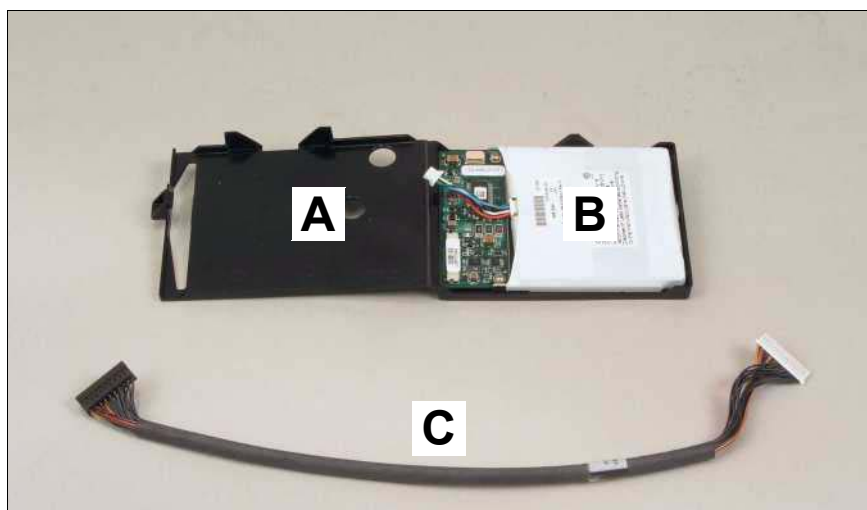


Figure 43: Components of the optional BBU package

A	Battery holder
B	Battery
C	Connection cable to the system board

- ▶ Open the server as described in the [chapter “Preparation” on page 23f.](#)
- ▶ Remove the memory boards or dummy memory boards installed in slots "C" and "D".

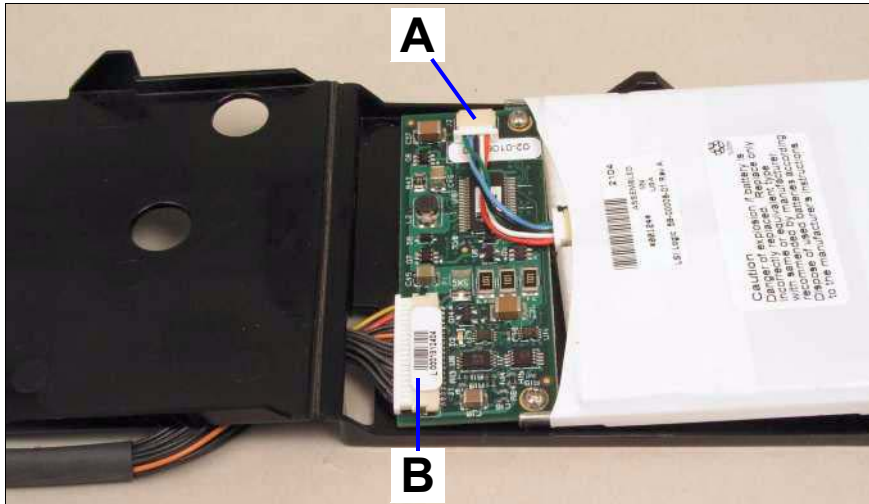


Figure 44: Connecting the internal and external cable to the battery

- ▶ Connect the plug of the internal cable to the internal battery connector (A).
- ▶ Connect the plug of the connection cable to the system board to the external connector of the battery (B) through the opening of the battery holder.
- ▶ Close the battery holder.

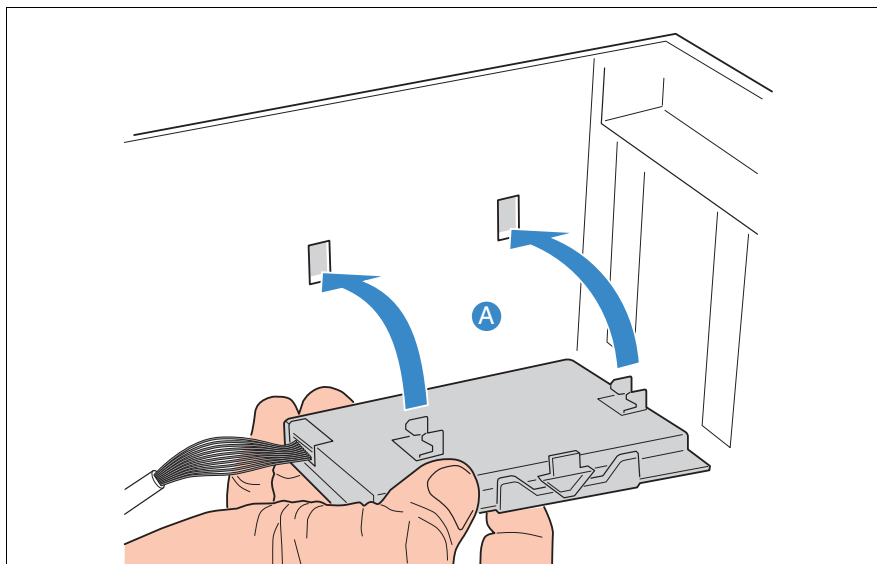


Figure 45: Fastening the battery holder and routing the connection cable

- Fasten the battery holder in the recesses provided in the side of the housing (A).

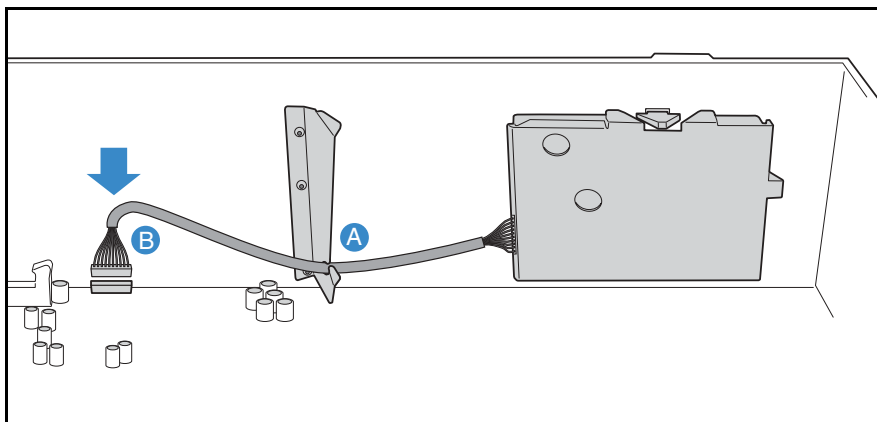


Figure 46: Attaching the connection cable to the system board

- Route the connection cable through the opening in the ventilation foil (A).
- Plug the connection cable to the connector "J1H1" on the system board (B).



The connector "J1H1" has a small plastic cover which must be removed first.

- ▶ Reinstall the memory boards or dummy memory boards in slots "C" and "D".
- ▶ Close the server, plug in the power plugs, and switch on the server as described in the [chapter "Completion" on page 65f.](#)

12 Completion



ATTENTION!

Make sure you observe the safety notes in the [chapter “Important notes” on page 13ff.](#)

12.1 Closing the server

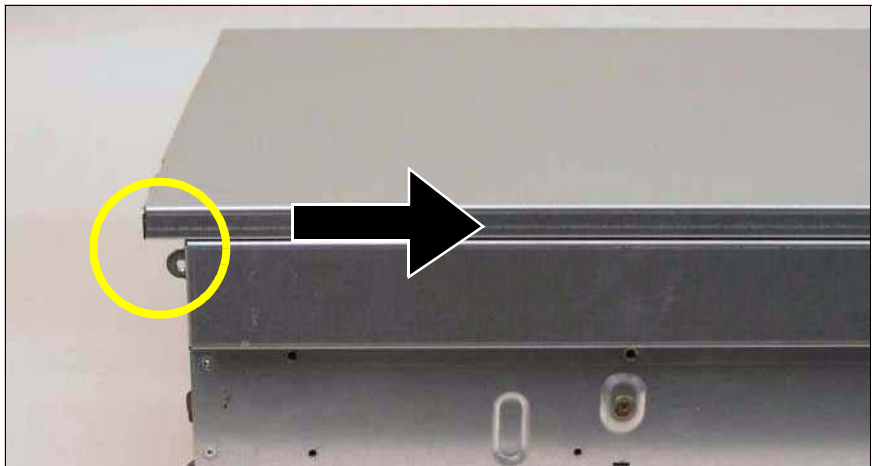


Figure 47: Mounting the housing cover

- ▶ Position the cover in such a way that the rear edge protrudes 1-2 cm from the housing (see circle).
- ▶ Push the housing cover forward as far as possible.
- ▶ Fasten the housing cover to the front of the system with the two captive screws (see [page 24](#)).
- ▶ Install the server in the rack.



The relevant procedure is described in the operating manual.

- ▶ Fasten the server in the rack cabinet using the knurled screws.
- ▶ Plug in the power plugs and switch the server on.

Abbreviations

The specialist terms and abbreviations listed here are not a complete list of all common terms or abbreviations.

AC

Alternating Current

ACPI

Advanced Configuration and Power Interface

ANSI

American National Standards Institute

ASR&R

Automatic Server Reconfiguration and Restart

BBU

Battery Backup Unit

BIOS

Basic Input-Output System

BMC

Baseboard Management Controller

BTU

British Thermal Unit

CC

Cache Coherency

CD-ROM

Compact Disk-Read Only Memory

CHS

Cylinder Head Sector

CMOS

Complementary Metal Oxide Semiconductor

Abbreviations

COM

Communications

CPU

Central Processing Unit

DC

Direct Current

DIMM

Dual Inline Memory Module

DIP

Dual Inline Package

DMA

Direct Memory Access

DMI

Desktop Management Interface

DVD

Digital Versatile Disk

ECC

Error Checking and Correcting

ECP

Extended Capabilities Port

EEPROM

Electrically Erasable Programmable Read-Only Memory

EFI

Extensible Firmware Interface

EIA

Electronic Industries Alliance

EMC

Electromagnetic Compatibility

EMP	Emergency Management Port
EPP	Enhanced Parallel Port
EPROM	Erasable Programmable Read-Only Memory
ESD	ElectroStatic Discharge
FAT	File Allocation Table
FPC	Front Panel Controller
FRU	Field Replaceable Unit
FSB	Front Side Bus
GUI	Graphical User Interface
HDD	Hard Disk Drive
HSC	Hot-Swap Controller
HU	Height Unit
I²C	Inter-Integrated Circuit
I/O	Input/Output

Abbreviations

ICM

Intelligent Chassis Management

ID

Identification

IDE

Integrated Drive Electronics

IEC

International Electrotechnical Commission

IME

Integrated Mirroring Enhanced

IPMB

Intelligent Platform Management Bus

IPMI

Intelligent Platform Management Interface

IRQ

Interrupt Request Line

LAN

Local Area Network

LBA

Logical Block Address

LCD

Liquid Crystal Display

LED

Light Emitting Diode

LP

Low Profile

LUN

Logical Unit Number

LVD	Low-Voltage Differential SCSI
MRL	Manual Retention Latch
MMF	Multi Mode Faser
NMI	Non Maskable Interrupt
NTFS	New Technology File System
NVRAM	Non Volatile Random Access Memory
OS	Operating System
PAM	Promise Array Management
PCI	Peripheral Component Interconnect
PDA	Prefailure Detection and Analysing
PDF	Portable Data Format
POST	Power-On Self Test
PS/2	Personal System/2
RAID	Redundant Arrays of Independent Disks

Abbreviations

RAM

Random Access Memory

RoHS

Restriction of the Use of Certain Hazardous Substances (Waste from Electric and Electronic Equipment, EU Directive)

ROM

Read-Only Memory

RoMB

RAID on Motherboard

RSB

Remote Service Board

RTC

Real Time Clock

RTDS

Remote Test and Diagnostic System

SAF-TE

SCSI Accessed Fault-Tolerance Enclosures

SAS

Serial Attached SCSI

SATA

Serial Advanced Technology Attachment

SBE

Single-Bit Error

SCA

Single-Connector Attachment

SCSI

Small Computer System Interface

SCU

System Configuration Utility

SDR

Sensor Data Record

SDRAM

Synchronous Dynamic Random Access Memory

SEL

System Event Log

S.M.A.R.T

Self-Monitoring, Analysis, and Reporting Technology

SMI

System Management Interrupt

SSU

System Setup Utility

SVGA

Super Video Graphics Adapter

USB

Universal Serial Bus

VGA

Video Graphics Adapter

VRD

Voltage Regulator Down

VRM

Voltage Regulator Module

WEEE

Waste from Electric and Electronic Equipment (EU Directive)

WOL

Wakeup on LAN

ZCR

Zero Channel RAID

Related publications

Manuals for PRIMERGY server systems are available as PDF files on the *ServerBooks* CD. The *ServerBooks* CD is part of the PRIMERGY *ServerView Suite* delivered with each server system.

The current versions of the required manuals can be downloaded free of charge as PDF files from the Internet. The overview page showing the online documentation available on the Internet can be found via the URL:

<http://manuals.fujitsu-siemens.com> (choose: *industry standard servers*).

- [1] **PRIMERGY RX600 S3 SAS**
Operating manual
- [2] **PRIMERGY RX600 S3 SAS**
Service Supplement
- [3] **System Board D2630 for PRIMERGY RX600 S3 SAS**
Technical Manual
- [4] **D2630 BIOS Setup Utility for PRIMERGY RX600 S3 SAS**
Reference Manual
- [5] **PRIMERGY ServerView Suite
ServerStart**
Benutzerhandbuch
- [6] **PRIMERGY ServerView Suite
ServerView S2**
Servermanagement
User Manual
- [7] **PRIMERGY ServerView Suite
ServerView**
Server Management
User Manual
- [8] **ServerView Extension
ServerView Extension für HP OpenView NNM**
- [9] **ServerView/Plus für Tivoli**

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User Manual
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- [18] **ServerView RAID 2.0**
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Submitted by

Comments
Suggestions
Corrections

Comments on PRIMERGY RX600 S3 SAS Server
Options Guide





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